M/045/060

Chief Geologist
CTS-Corporate Technical Services

Holcim

Tom Newman, CPG, RG
Holcim (US) Inc.
1405 Parkwood Drive
Ft Collins, CO 80525-1934

Phone 970-217-6110
Tom.newman@holcim.com
www.holcim.com/us

May 15, 2005

Susan White, Program Coordinator
Tom Munson, Senior Reclamation Specialists
Utah Department of Natural Resources
State of Utah, Division of Oil, Gas and Mining
1594 West North Temple Suite 1210
Box 145801
Salt Lake City, UT 84114-5801

SMO S/045/060

Subject: DE - Holcim (US) Inc. – State of Utah - Skull Valley, Utah – Public Protest Letters

Dear Susan and Tom,

This correspondence is a reply to your letter dated May 3, 2005 to Ken George; attached.

Four identical letters were sent to DOGM in response to Holcim's LMO application. The identical letters are attached.

The four identical letters address dust, quarry access, highwalls, truck traffic and speed.

The concerns in the letter(s) are also the concerns of Holcim (US). Each is addressed in the LMO Permit application with specific remedies. LMO Application sections attached.

Holcim (US) takes all correspondence from its neighbors seriously and will work diligently to satisfy their concerns. Attached is Holcim (US) reply to the letters sent to DOGM.

Those issues that can be addressed immediately will be, i.e. signs, berms, dust….

Sincerely,

Tom Newman

Tom Newman, CPG, RG
Corporate Geologist

Copy:
John Todd, Plant Manager
Lance Stephens, Production Manager
Ken George, Quarry Manager
Penny Taylor, Office Manager
Allen Jones, Plant Accounting
Mike Toelle, Western Division Quarry Coordinator

Nicole L. Cline, AICP
Planner/Deputy Zoning Administrator
Tooele County Dept. of Engineering
47 South Main
Tooele, Utah 84074

CUP 0116-02

Glen Carpenter / Mike Ford / Larry Garahana
BLM Geologists
BLM - Salt Lake District Office
2370 South 2300 West
Salt Lake City, Utah 84119

U-77753 and U-77778

Christopher F. Robinson
Castle Rock Land and Livestock LC
139 E. South Temple, Suite 310
Salt Lake City, UT 84111

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah

Department of Natural Resources

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas & Mining

MARY ANN WRIGHT
Acting Division Director

May 3, 2005

Ken George, Quarry Manager
Holcim (U.S. Inc.)- Devil's Slide Plant
6055 East Croydon Road
Morgan, Utah 84050

Subject: Public Protest Letters, Holcim's (US) Inc., Skull Valley Diatomaceous Earth Quarry, M/045/060, Tooele County, Utah

Dear Mr. George:

The Division received four written objections, within the 30-day public comment period, to the publication of tentative approval for the Skull Valley Diatomaceous Earth Quarry. Comments were also received from state agencies through the Resource Development Coordinating Committee. A copy of the comments and objections are attached.

The Division is temporarily suspending tentative approval until we are able to evaluate the comments and determine if they are substantive and require a formal adjudicative hearing in accordance with UCA 40-8-13. You may provide the Division information in order to help us evaluate the comments. We would like to schedule a site inspection with you to evaluate the comments. Please contact us to arrange such a site visit.

Final approval will not be issued until the citizen protests are resolved and we have received the $99,700 surety bond and accompanying Reclamation Contract. Please contact me at (801) 538-5258, or Tom Munson at 538-5321 to schedule a site inspection.

Sincerely,

Susan M. White
Program Coordinator
Minerals Regulatory Program

SMW:tm:jb
Enclosure: protest letters and RDCC comments
cc: Glenn Carpenter, BLM, SLFO w/comments
O:\M045-Tooele\M0450060-SkullValleyDiatoms\draft\protestletters.doc

Copy: Susan
Tom

Derek and Tamsen Andrus
P.O. Box 145
Dugway, Utah 84022

RECEIVED
APR 26 2005
DIV. OF OIL, GAS & MINING

April 23, 2005

Subject: Written protest to Mine Plan Permit Revision, Holcim (US) Incorporated's, Skull Valley Diamaceous Earth Quarry, M/045/060, Tooele County, Utah

Dear Mr. Mark Mesch,

I am writing in protest to the recent decision to approve Holcim (US) Inc. permit of expanding an existing small mining operation located in Skull Valley, Tooele County, Utah. Having seen and watched Holcims' current operation, I feel that expanding their current operation would only worsen an already bad situation. At the pit site, overburden and the pit itself is a horrible dust problem. In a valley where the wind blows all the time, dust from the operation is terrible. No dust control measures are taken to lessen the situation. Reject material and waste rock are found throughout the project. Roads to the pit area are open to common traffic and are not marked as to the hazard ahead, which includes dropoffs into the pit which are NOT bermed or fenced off. (During operation and non operation) Truck traffic due to the existing pit has already taken its toll on the Old Lincoln Highway. We are fortunate that it was paved due to the County school bus travel. The asphalt was placed over the existing gravel road with trucks and road grader. We are grateful for this, but it was NOT engineered for the heavy trucks and trailers that are currently hauling the material. Furthermore, those trucks travel past homes located on the Lincoln Highway, some of which have young children in which the trucks size and speed creates quite a hazard.

I have no reason to believe that by approving the operation to go large scale, that Holcim will improve upon their current operations and respectfully protest the tentative decision to grant approval of the Large Mining Operations Notice of Intention for Holcim's Skull Valley Diatomaceous Earth's Mine.

Sincerely,

Tamsen Andrus

Derek and Tamsen Andrus
435-830-6393

Tom

RECEIVED
APR 26 2005
DIV. OF OIL, GAS & MINING

Brett and Alexis Andrus
259 D West 5th
Dugway, Utah 84022

April 23, 2005

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Sincerely,

Brett and Alexis Andrus

Dan Andrus and Jackie Wilde
Orr's Ranch, Skull Valley Utah
P.O. Box 75
Dugway Utah 84022

RECEIVED
APR 2 / 2005
DIV. OF OIL, GAS & MINING

April 23, 2005

Subject: Written protest to Mine Plan Permit Revision, Holcim (US) Incorporated's, Skull Valley Diamaceous Earth Quarry, M/045/060, Tooele County, Utah

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Sincerely,

Dan Andrus and Jackie Wilde

Dennis and Shirley Andrus
550 Lincoln Hwy
Grantsville Utah 84029

MM

April 23, 2005

Subject: Written protest to Mine Plan Permit Revision, Holcim (US) Incorporated's, Skull Valley Diamaceous Earth Quarry, M/045/060, Tooele County, Utah

Dear Mr. Mark Mesch,

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Sincerely,

Dennis and Shirley Andrus
Owner/ Operator
Orr's Ranch
550 Lincoln Highway
Skull Valley, Utah

Dennis D Andrus Sr.
Shirley J. Andrus
} 04-25-05

Jon M. Huntsman, Jr.
Governor

Gary R. Herbert
Lieutenant Governor

State of Utah

GOVERNOR'S OFFICE OF PLANNING AND BUDGET

Resource Development Coordinating Committee

John A. Harja
Executive Director

April 27, 2005

Tom Munson
Division of Oil, Gas and Mining
1594 West North Temple
PO Box 145801
Salt Lake City, Utah 84114-5801

SUBJECT: Skull Valley Diatomaceous Earth Quarry, M/045/060, Holcim (US) Incorporated
Project No. 05-5079

Dear Mr. Munson:

The Resource Development Coordinating Committee (RDCC) has reviewed this proposal. State agencies comment as follows:

Department of Environmental Quality/Division of Air Quality

The proposed project is subject to Utah Air Conservation Rule R307-205-5, Mining Activities, since fugitive dust emissions will be generated during mining activities. A permit, known as an Approval Order, is not required solely for the control of fugitive dust, but steps need to be taken to minimize fugitive dust, such as, watering and/or chemical stabilization, providing vegetative or synthetic cover and windbreaks. A permit application, known as a Notice of Intent, should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, Salt Lake City, Utah, 84116, if any on-site crushing of stone occurs according to Utah Air Conservation Rule R307-401, Permits, Notice of Intent and Approval Order. A copy of the rules are found at www.rules.utah.gov/publicat/code/r307/307.htm

Division of State History

The Utah State Historic Preservation Office has reviewed our cultural resource files for the above requested project area.

Section 404 Consultation DOGM; the area of potential effect has been surveyed with one archaeological site located. The site appears, from the application, not to be in the six-acre area of disturbance, therefore USHPO recommends a determination of No Historic Properties Affected, §UCA 9-8-404.

This information is provided on request to assist with state law responsibilities. As specified in U.A.C. 9-8-404, final determinations concerning cultural resources are the State Lead Agency's. If you have questions, please contact Wilson Martin at (801) 533-3552.

The Committee appreciates the opportunity to review this proposal. Please direct any other written questions regarding this correspondence to the Resource Development Coordinating Committee at the above address or call Carolyn Wright at (801) 537-9230 or Kim Frost at (801) 538-7326.

Sincerely,

John Harja
Executive Director
Resource Development Coordinating Committee

Chief Geologist
CTS-Corporate Technical Services

Holcim

Tom Newman, CPG, RG
Holcim (US) Inc.
1405 Parkwood Drive
Ft Collins, CO 80525-1934

Phone 970-217-6110
Tom.newman@holcim.com
www.holcim.com/us

May 15, 2005
tom.newman@holcim.com
ken.george@holcim.com

To:
Brett and Alexis Andrus
259 D West 5th
Dugway, Utah
84022

Subject: - Holcim (US) Diatomaceous Earth LMO Application -

Dear Brett and Alexis,

This is Tom Newman, Holcim's Geologist and Ken George, Devil's Slide Quarry Manager. We are the persons responsible for the Diatomaceous Earth (DE) pit in Skull Valley.

We are writing in response to your letter to the State of Utah Division of Oil, Gas and Mining dated April 23, 2005. We are also sending this letter to the others that replied to DOGM.

We apologize for taking so long to reply but want you to know how seriously we take your comments and concerns. We want to be the best neighbours we can be.

May we address each concern in your letter.

Large Mine Permit

The State of Utah, Division of Oil, Gas and Mining has only two kinds of mining permits, Small (less than 5 acres) and Large (larger than 5 acres). The Large application can apply to someone as big as Kennecott's copper mine or one the size of our DE Pit.

We had to apply for the Large permit because we will be exceeding the 5 acres of the Small permit. We do not anticipate removing anymore DE then what we are doing now; it's just that we need to expand the acreage beyond the 5 acre limit.

Waste rock and reject Material

You are right that the unused material is found throughout the area of disturbance.

We use local contractors to do the DE removal for us. Our contractor can certainly do a better job in house keeping and we have instructed him to do so immediately. We use contractors because

they can do the job cheaper and we believe in helping the local communities as much as possible.

Please note that we try to not waste or reject any material. The piles you see are topsoil stockpiles that contain plant seed and soil nutrients from the top two feet of the surface. All the stockpiles are going to be used to cover the pit for reclamation.

Pit Roads

We will be putting up hazard signs as you suggested at the entrance from the highway.

The pit roads were there before we started removing the DE. We put gravel on the portions that are traveled in order to reduce dust and to keep from getting stuck in the soft material. We have committed to removing the gravel when we are done.

We have also committed ourselves to putting up a gravel berm across the entrances when we are not actively removing DE. This seems to work, except that anyone can drive cross country around the berms if they want to.

Pit Drop Offs

Holcim is regulated for safety by MSHA (Mining, Safety and Health Administration). It is a Federal Agency dedicated to miner's health and safety. MSHA requires that any 'highwall' be guarded with an earthen safety berm equal to the axle height of the largest piece of equipment on site, or about 2 feet at Skull Valley.

While we may be meeting the regulatory requirements, we can certainly do better and have instructed our contractor to make better ones. We will be looking into fencing as you suggested.

The highwalls will be reduced to shallow slopes at the end of each seasonal DE removal session.

Dust

Dust is our primary concern also. The best thing we can do now is reclaim the pit immediately after the DE is removed.

We have instructed our contractor to keep the dust down to a minimum. And we are working with all the experts we can find to help us reduce the dust in the pit. Of course we will consider dust control measures such as water if that is the best solution.

We kindly ask for your help and to call us when you see dust is leaving the pit. That way we can come and see what the best measures can be. Also please call us if you see our contractor trucks with dust!

Truck Traffic and Speed

We put our highest value on safety; for us and our neighbors. Our contractor said he is going the speed limit by the houses, but if not we PLEASE ask you to call us so we can take immediate action. We have asked the contractor to go slower then the speed limit. Speeding will not be tolerated by Holcim (US) and penalties will be assessed if our contractor is speeding (up to termination of the contract).

We will also be asking the County to erect Speed Limit signs near the houses on the Old Lincoln Highway to reinforce everyone's need to reduce speed.

Concerning the wear and tear on the highway. Six truck loads a day are being used to remove the DE. We understand we contribute to the wear and tear to the highway as do all the commercial trucks. As the DE is very lightweight our trucks are not contributing as much wear and tear as other trucks

We have told our contractor to let us know of any potholes that develop so the County can repair them. We will certainly help our neighbors jointly notify the County of the need to maintain the highway for everyone's enjoyment.

LMO Application Copy

Attached are parts of the LMO application that address each of your concerns. We will be obligated to perform to the requirements or risk losing our permit.

We truly want to be your good neighbor. And as good neighbors we ask for your help by keeping an eye on the activities in Skull Valley. If you see anything that is wrong, I can give our word that if you call us we will respond.

Visit

Ken George and I would like to come by and introduce ourselves in person. That way we can get to know each other and development the relationship we all want – Good Neighbors.

Yours sincerely,

Tom Newman Ken George

970,215,6110 801,829,8156

NOTICE OF INTENTION

TO COMMENCE LARGE MINING OPERATIONS

SKULL VALLEY DIATOMACEOUS EARTH QUARRY

TOOELE COUNTY, UTAH

Submitted To:

UTAH DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL, GAS, AND MINING

SALT LAKE CITY, UTAH

By:

HOLCIM (U.S. INC.)
DEVIL'S SLIDE PLANT
6055 E. CROYDON ROAD
MORGAN, UTAH 84050

Prepared by: Jeaneane Renz
Reviewed by: Ken George

Submittal Date: August 23, 2004

III. Rule R647-4-106 – Operation Plan

106.1 Mineral to be mined: Diatomaceous Earth

106.2 Type of Operation Conducted:

MINING

The Operation Plan calls for approximately 100,000 tons per year of diatomaceous earth to be removed to produce pozzolanic cement for Holcim (U.S.) Inc. Market forces will dictate the actual amount removed per year. The diatomaceous earth is on or near the surface and has the consistency of dry dirt. Surface mining is the only viable method of removing the diatomaceous earth.

Mining will be by a campaign schedule where a large tonnage will be removed at one time and periods where no mining activity will occur. Several campaigns may occur each year. Six people will be involved in surface mining:

Six people will be involved in surface mining:

- Supervisor
- Front end loader/ dozer operator
- Four overland truck drivers at any one time.

No milling or processing facilities will be constructed on site. No power lines or pipelines will be on site. No permanent or temporary structures are currently on site excepting a portable toilet located on site during mining operations as required in the Conditional Use permit issued by Tooele County. No fuel storage tanks are on site. No explosives will be used in the removal of diatomaceous earth. Mining equipment will be parked within the pit area and will be moved offsite during periods of non-operation.

The perimeter of each mining area will be flagged during mining operations. Markers are made of wooden laths with colored biodegradable flagging tape.

There is no overburden because the diatomaceous earth is located on or near the surface. There will be no material for permanent storage. A soil survey to be completed will describe the amount of soil to be stockpiled. Until then, the operator will continue to remove and stockpile Plant Growth Medium (PGM) and reclaim land as described here. 1 to 3 feet of PGM, composed of gravels and topsoil with seed bearing horizons overlie the diatomaceous earth. The Operator will temporarily stockpile this material adjacent and contiguous to the mining area for later use in reclamation.

Diatomaceous earth will be removed using a front-end loader or excavator. Mining will consist of digging into the diatomaceous earth and loading each bucket into a truck. The nature of the loader/ excavator and the freestanding nature of the diatomaceous earth usually create high walls. The maximum height of any high wall will be 25 feet.

Disturbed areas will be reclaimed annually. The loader will perform all the loading of the trucks and assist in reclamation activities. The Operator will use a dozer or similar equipment to stockpile the PGM. During reclamation the dozer will be used to re-contour the pit and spread the PGM as the final cover. As described in Section 110.5, the final cover of PGM will be at least 1 foot thick.

A loader/ excavator will be used to dig the diatomaceous earth and to load overland dump trucks in the pit. Once trucks are loaded, they will use dust control systems (described in Section 109.4) while on county, state, and federal roads. Listed below is the type and number of trucks that will be used during the surface mining operation. The Operator reserves the right to alter the type and number of trucks used as necessary. The approximate number of ingress and egress (counting as roundtrips) off the existing all weather asphalt road will be kept to a minimum.

Type and number of trucks to be used in mining operations:

Haul Truck Type = 18 Wheel End Dump Trucks and Trailer 'Pups'
Rated Capacity is approximately 30 tons
Note: Diatomaceous earth is very light weight and a truck will never carry its rated amount of tonnage. Only four trucks will be on site at any one time.

The Haul Trucks will use existing all-weather asphalt paved roads as soon as possible when leaving the pit. As total truck bed capacity is vital to the success of the operation, spillage of the diatomaceous earth will be kept to a minimum. The trucks and trailers will have tarps and/or covers to control dust while in transit.

At the end of each campaign, the mine access roads will be bermed at the asphalt entrances to prevent access during periods of non-operation.

There are no pipelines or power or utility services in the immediate area of disturbance. There will be no construction of any type of utility: electric, water, gas, etc

EXPLORATION ACTIVITIES

On occasion small core drilling activities to a maximum depth of 100 feet will be performed in advance of the pit development. Exploration activity will consist of a small track mounted with a core-drilling unit. The unit will only operate in areas that are declared free of archaeological sites by the BLM. The unit is small and creates little disturbance. The BLM and Utah DOGM will be notified before any exploration activities occur. All State and Local regulations will be enforced.

ACCESS

The area has numerous dirt roads that have existed for decades. This plan intends to use only existing roads that are depicted on the topographic map USGS 7.5' quadrangle 'Terra, UT' from 1998. The topographic base map, Figure 105.2, shows the location of existing access roads that will be used during the removal of the diatomaceous earth.

The mine site is along an existing improved dirt road with a crushed limestone base. This limestone was imported from Holcim's Poverty Point Limestone Quarry. All attempts will be made to use this existing dirt road. The road is on the topographic surface at the site. Prior to the existing Small Mine Operation and the 'BLM-NOI: small mining operations,' some down cutting occurred due to the soft nature of diatomaceous earth. Any future down cutting will be stopped by routine maintenance of the road.

Road maintenance is planned because diatomaceous earth on the surface is soft and will not support vehicle traffic. A crushed rock road base is necessary for equipment to travel to and from the diatomaceous earth pit. Where necessary, crushed rock will be used as a road

base. The crushed rock road base will be removed upon completion of mining unless otherwise instructed by the US BLM. There are no plans for surfacing the dirt road.

Berms of diatomaceous earth are along the sides of the road. They are 1-3 feet high and were constructed when the original road was built, prior to Holcim's activities. As they are composed of PGM, they will be kept and used in the final reclamation of the road.

Neither surface water nor the expression of water channels exists along the dirt road; therefore no culverts are planned.

Surface disturbance will be kept to a minimum by using the existing roads. The roads will be kept at the minimum width necessary for equipment movement. Table 106.1 provides the road specifications.

Table 106.1 - Road Specifications

Width	14-18 feet
Length	0.6 mile (from paved road to paved road)
Surface	Diatomaceous Earth with a cover of crushed limestone (imported from Poverty Point)
Culverts	None – no water channels cross the dirt road
Berms	1-3 feet high on either side of the road

GENERAL OVERVIEW

Surface mining will take advantage of the already disturbed site. All PGM will be temporarily stockpiled and reused as the final re-contoured surface layer. Existing dirt roads will be used for access. All road improvements, such as the crushed rock road base, will be removed when mining is completed unless otherwise instructed by the US BLM. The road will not be reclaimed unless requested by the US BLM.

106.3 Estimated Acreage

The annual acreage to be disturbed is listed in Table 106.2. The total acreage proposed to be disturbed over the life of the mine, as measured off the facility map (Figure 105.4), is 44.7 acres.

Table 106.2 – Estimated Acreage

Areas of actual mining (annual)	6 acres
Overburden/waste dumps	none
Plant Growth Medium stockpile	1 acre
Ore and product stockpiles	None
Access / haul roads	2 acres
Associated on-site processing facilities	None
Tailings Disposal	None
Total Acreage disturbed annually	**9 acres**

106.4 Nature of material including waste rock/overburden and estimated tonnage

The typical annual amount of diatomaceous earth removed will be close to 100,000 short tons. This will be taken over about 6 acres of land to a depth of about 25 feet, the estimated thickness of the diatomaceous earth. Using 60 lbs per cubic foot for the packed bulk density, 100,000 short tons equivocates to about 125,000 cubic yards.

The packed bulk density was calculated using a wooden box with an interior volume of one cubic foot. This box was packed with diatomaceous earth stockpiled at the Devil's Slide Quarry. The diatomaceous earth stockpile was randomly sampled until the box was filled. The mass of the diatomaceous earth and the wooden box was found to be 70.88 pounds. The mass of the box, 11 pounds, was removed. This resulted in a packed bulk density of 59.88 or 60 pounds per cubic foot. The moisture content of the diatomaceous earth weighed was found to be 19.4% by mass. The color and texture was similar to that of the diatomaceous earth in place. It is therefore assumed that the moisture content of diatomaceous earth in place is similar.
No overburden or waste material will be generated because the diatomaceous earth is exposed at the surface. However, there does exist 1-3 feet of PGM composed of gravels, topsoil, and seed bearing horizons. Below is a summary of the above numbers.

Table 106.3 - Summary of Estimated Annual Volumes

Thickness of Plant Growth Medium	1-3 feet
Thickness of mineral deposit	25 feet
Estimated annual volume of overburden	0 cu. yds
Estimated annual volume of tailings/ reject materials	0 cu. yds
Estimated annual volume of DE mined	125,000 cu. yds

106.5 Existing soil types, location of Plant Growth Medium

A soil survey of the proposed disturbed areas will be completed in the summer following the approval of this permit and will be submitted as an addendum to the permit. The soil survey will describe the soils that will be removed and stockpiled to be available for reclamation. Until the survey is complete, the Operator proposes to continue removing the top 1-3 feet of PGM of disturbed areas and stockpiling the material adjacent and contiguous to the mine pit. The PGM will be reapplied to disturbed areas annually.

106.6 Plan for protecting and redepositing existing soils

The thickness of the soil and volume to be stockpiled will be described in the soil survey to be completed. Until this is completed, the Operator will remove PGM during mining and replace it each fall. The PGM (Plant Growth Medium) will be removed as described in Section 106.2. The PGM will then be temporarily stockpiled in multiple piles adjacent and contiguous to the mining area. To minimize erosion, the stockpile will be of a topographic low. It will be reapplied and seeded until reclamation is successful and the area released by the DOGM. In addition, the PGM contains vegetative debris that will help minimize erosion during stockpiling. According to soil information provided by the NRCS, the PGM is subject to

minimal water erosion. Should it be found necessary, additional and appropriate measures will be taken to control erosion.

Over the life of the mine, soil / PGM will be removed from the area within the proposed disturbance boundary, a total of 44.7 acres. The volume of PGM stockpiled should range from 9,680 cubic yards to 29,040 cubic yards (assuming the PGM is removed from 6 acres of land annually).

106.7 Existing vegetative communities to establish revegetation success

A vegetation survey will be conducted as part of the soil survey in the spring/summer following the approval of the permit. The vegetation survey will provide a baseline inventory and will be submitted as an addendum to this NOI. In the interim, Holcim would like to continue stripping and placement of PGM prior to the start of the vegetation survey. The vegetation survey will provide an estimate of vegetation type and amount in areas that have been stripped and prepared for deposit of PGM. It will also provide a test of soil fertility. Photographs showing the general appearance and condition of the area to be affected are included as Figure 106.1.

106.8 Depth to groundwater, overburden material & geologic setting

GROUNDWATER

It is not anticipated that the mining operation will encounter or impact groundwater in the area. There has been no well drilling to determine if and where groundwater may exist. Any well drilling to discover ground water may in itself cause contamination, therefore no drilling is recommended. Geologically, it appears that if groundwater does exist, it is at considerable depth, at least +100 feet in depth, which is well below the maximum depth of the diatomaceous earth material.

GEOLOGIC SETTING

The project area is located in Skull Valley in Toole County, Utah, about 100 miles southwest of Salt Lake City. The geology of this area has been described in several papers. The information presented here is mainly derived from three of these papers. These are by Everett (1957), Ives (1948), and Setty (1963).

Skull Valley is primarily the result of Basin and Range faulting. The structure of surrounding mountains and bedrock was imparted during earlier orogenies. Surface morphology of the area consists of large developed alluvial fans which coalesce, forming broad bajadas. Alluvial fan debris consists of gravels and sands and small-unconsolidated ridges and gullies formed by ancestral erosion, most probably flash flooding events. The center of the basin consists of a fairly level plain with the lowest depressions being occupied by salt beds.

The valley is a topographic low between the Stansbury and the Cedar Mountains with a north-south extent of about 50 miles. These ranges are block-fault ranges composed largely of Paleozoic limestones with igneous intrusions of more recent ages. The last igneous activity in the area is known to have occurred during the Pleistocene. The Paleozoic rocks have been folded and tilted. Folding is attributed to Laramide thrusting while tilting is attributed to faulting due to Basin-and-Range extension. Valley fill is a "heterogeneous accumulation of lake clays, silts, and gravels buried and interfingering with alluvial deposits" (Everett 1957).

An arm of Pleistocene Lake Bonneville formerly occupied Skull Valley. The highest shoreline, the Bonneville, is plainly visible on the walls of the valley. Lake Bonneville had a varied and unique ecology. The lake contained diatoms. Diatom skeletons were deposited either near shore, along the terraces, or in quite and protected regions of bays or lagoons. The project area is located along an old shoreline of Lake Bonneville. The beds are covered with thin alluvial fan gravels. The area has already been disturbed by agricultural activities and past mineral extraction. The diatomaceous earth is on or near the surface. It is tan in color, lightweight, soft, friable, loose, unconsolidated, earthy, and without substantial structure.

106.9 Location and size of ore and waste stockpiles, tailings, and treatment ponds

The diatomaceous earth being mined is exposed at the land surface. There is no waste rock or overburden, but there is 1-3 feet of PGM which will be stockpiled during mining and replaced annually. Any other material removed is diatomaceous earth and will be trucked off-site; there will be no onsite storage.

As there is no overburden, waste rock, tailings, or other rejected materials, no dumps, stockpiles, tailings ponds or facilities, or water storage or treatment ponds will be built.

There are no proposed effluent discharge points. There is no discharge into or out of the proposed disturbance boundary nor does surface water or the expression of water channels exist within the proposed disturbance boundary. The project area is in an arid desert environment where normal precipitation quickly evaporates. Torrential rainfall would temporarily collect in the Pit. The diatomaceous earth pit may accumulate water which would then quickly evaporate. In such events, mining activities can stop until the ground is dry.

IV. Rule R647-4-107 – Operation Practices

During operations, the Operator shall conform to the practices listed under Rule R647-4-107 of the Minerals Rules.

There exist no known shafts or tunnels within the property boundary. If any are found during the course of mining, they will be guarded to prevent unauthorized or accidental entry in accordance with MSHA regulations.

Should any trash, scrap metal, wood, or other extraneous debris be generated, it will be placed into sealable containers and removed.

If any holes are drilled during exploration activities, they will be plugged from bottom to top to prevent the mixing of waters from the surface or subsurface. The surface of any drill holes will be plugged to prevent direct inflow of surface water and to eliminate the open-hole hazard. All plugging will be in compliance with State of Utah and BLM regulations.

During mining operations and non-operational times, if public safety hazards or conditions exist, then signs, fences, or other measures will be erected to identify them. If warranted, public access will be restricted from specific mining sites. The mining area will be flagged during active mining with wooden laths with colored biodegradable flagging tape. At the end of each campaign, the entrances to the dirt road from the paved highway will be bermed to restrict access to the diatomaceous earth pit and high walls will be reshaped to conform as best possible to surrounding topography. During mining operations, signs will be erected to warn the public that heavy machinery is in use.

Any high walls created during mining that would pose a public safety issue will be clearly marked and bermed.

No natural drainage channels exist within the proposed disturbance boundary.

The pit is hydrologically enclosed. Any pit erosion will be internal and be deposited into the bottom of the pit. The eroded material is diatomaceous earth and will be collected and used as mine material. Erosion outside the pit will be kept to a minimum using engineering designs, mechanical barriers, vegetation, etc. During non-operational periods, the slopes will be re-contoured to conform as best possible to surrounding topography, an application of PGM will be applied, and a seed mixture distributed to minimize erosion and other adverse impacts. The slope will be stabilized to minimize erosion and facilitate vegetation. The area will be maintained in a safe and clean manner.

All motor fuels and greases are currently stored within the vehicles. Any minor spills will be cleaned up and disposed of at the off-site truck maintenance shop. Any major spills will be reported and cleaned up via environmental contractors. No water, hazardous materials, or explosives will be used. No drilling fluid will be used. Any and all toxic materials will be collected and removed from Federal property and properly disposed of in accordance to Federal, State, and County regulations and laws.

Plant Growth Material (PGM) will be protected as described in Section 106.6.

After each mining campaign, the walls of the pit will be re-contoured to a 3:1 slope, i.e. three horizontal units to 1 vertical unit. The pit will be reshaped to blend with the pre-mining surrounding topography. The slopes will be stabilized to minimize erosion and facilitate

revegetation. The PGM will be applied over the surface of the re-contoured pit, and a seed and fertilizer mixture will be distributed over disturbed areas. The seed mixture will be approved by the BLM. As the pit will not be free draining, a variance is requested, as described in Section VIII.

V. Rule R647-108 – Hole Plugging Requirements

If any drill holes are drilled during exploration activities, they will be plugged to prevent the mixing of waters from the surface or subsurface. Groundwater is of unknown depth or existence, but is estimated to be at a depth of at least +100 ft. Drill holes will be drilled to a maximum depth of 100 feet; therefore no encounter with groundwater is anticipated. All drill holes will be plugged from bottom to top. The surface of any drill holes will be plugged to prevent inflow of surface water and to eliminate the open-hole hazard. All activities will be compliance with State of Utah regulations.

VI. Rule R647-109 – Impact Statement

109.1 Surface and groundwater systems

No impact to surface or groundwater systems is anticipated. No surface water exists in the proposed disturbance area, nor does there exist the expression of surface water. As described in Section 106.8, groundwater is at a depth of +100 feet.

As absolutely no foreign substances will be drained, injected, pooled, or stockpiled on site, and as groundwater will not be encountered during mining, there will be no groundwater monitoring.

All Mining Contractors will be contractually required to report any accidental spillage that could affect potential groundwater. The Utah DOGM and the BLM Regional Office will be notified immediately if an accidental spill occurs and how the spills will be mitigated.

109.2 Wildlife habitat and endangered species

No impact to wildlife or endangered or threatened species is anticipated. No endangered species or BLM-defined special status species or designated critical habitats have been discovered on the Diatomics Placer Claim Group. No Federal, State, or Local Agencies have reported human activities that would affect any endangered species specific to the Diatomics Placer Claim Group.

109.3 Existing soil and plant resources

The proposed disturbed area has been previously disturbed by prior mining activity, agriculture and livestock grazing. The proposed acreage is relatively small and the habitat common in the West Desert. Further disturbance will minimally impact existing soil and plant resources, therefore, little impact to soil or plant resources is anticipated.

109.4 Slope stability, erosion control, air quality, public health & safety

SLOPE STABILITY

No impact to slope stability is anticipated. The area mined is relatively flat. The final slope of the pit after reclamation, 3h:1v, will create a slope of angle of about 20 degrees. The typical angle of repose of natural slopes close to the site is between 33 and 37 degrees.

EROSION CONTROL

Erosion control will occur as described in Section IV – Operation Practices.

PUBLIC HEALTH AND SAFETY

Measure taken to minimize impacts to public health and safety are described in Section IV – Operation Practices.

AIR QUALITY

Dust will be generated by mining activities. CRLL and its Operator are regulated by Federal and State dust control requirements. A Dust Control Plan is proposed here. If wind gusts reach speeds above approximately 30 miles per hour or if winds generate high dust from the Pit, all mining operations will stop until wind gusts drop. All trucks will be required to travel at speeds less than 10 mph when not on a paved road. Any activities that do generate high dust will be immediately stopped. Trucks carrying diatomaceous earth offsite will have covers that will close over the diatomaceous earth immediately after the front end loader has finished loading that truck.

If this plan is not acceptable to state and federal agencies, a dust inventory will be made by a certified third party in order to determine the best dust control plan and monitoring. In all cases, all mining contractors will be contractually required to adhere to the Dust Control Plan.

VII. Rule R647-4-110 – Reclamation Plan

110.1 Current land use and post mining land use

The land is currently used for sheep and cattle grazing. Post-mining land use will be the same.

110.2 Reclamation of roads, high walls, slopes, leach pads, dumps, etc.

High walls will be re-contoured to a slope of 3h:1v. Any equipment track depressions will be smoothly re-contoured and the pit will be contoured to a broad, shallow depression. As this depression will not be free draining, a variance, as described in Section VIII, is requested. The pit surface will be reshaped to conform as best as possible to the approximate original contours. The recontoured pit will have a potential to be a temporary water impounding structure. A variance to allow this is requested. See Section VII for more detail.

Stockpiled PGM will be applied over the re-contoured surface. An approved seed and fertilizer mixture will be distributed over disturbed areas through broadcast seeding.

Upon completion of mining, the crushed rock road base will be removed and hauled as product to another Holcim facility unless otherwise instructed by the US BLM. Berms of diatomaceous earth along the sides of the road were constructed when the road was built. These are made of PGM and will be used in the final reclamation of the road. If BLM requests reclamation, the dirt roads used for hauling will be ripped to a depth of 24 inches. It will then be reshaped to conform as best as possible to approximate original contours and to facilitate revegetation. PGM will be applied over the re-contoured surface and the road will be re-seeded and fertilized.

Any drill hole not consumed during mining will be reclaimed. Reclamation will be consistent with the rules for plugging drill holes (R-647-4-108). The drill hole will be covered with PGM, reseeded, and fertilized according to the practice described above.

All re-seeding and fertilizing will occur between October 1 and March 15 to take advantage of the cool season precipitation as recommended by the DOGM.

There will be no other impoundments or ponds on site. No drainage channels exist on the property. There will be no waste dumps, shafts, or adits on site. No tailings will be created, and there will be no leach pad on site. There will be no stockpiling of materials on site beyond the temporary stockpiling of PGM which will be used as a final application after reshaping of disturbed areas.

Reclamation will occur annually.

110.3 Surface facilities to be left

Any temporary structures will be removed and the areas reclaimed. No permanent structures exist.

Existing roads depicted on the topographic map USGS 7.5 minute quadrangle 'Terra, UT' from 1998 used by the Operator will not be reclaimed unless otherwise requested by the BLM. If requested, reclamation will occur as described in Section 110.2 above.

110.4 Treatment, location, and disposition of deleterious materials

No deleterious materials are currently on site, as described in Section IV – Operation Practices.

110.5 Revegetation planting program and topsoil redistribution

Disturbed lands will be rough graded to re-establish contours for the preparation of seedbeds and revegetation. After contouring, the mining area will be a shallow depression with slopes of 3h:1v. The shallow slope and topographic low of the depression should minimize erosion. Should it be found necessary, appropriate stabilization methods will be used to control erosion and to stabilize slopes and disturbed lands.

SOIL MATERIAL REPLACEMENT

Soil will be removed prior to mining and temporarily stockpiled adjacent and contiguous to the mining site. During each mining campaign, the volume stockpiled should range from 9,680 cubic yards to 29,040 cubic yards (assuming the soil is 1-3 feet deep and removed from 6

acres of land). The stockpile will be used for reclamation. The volume stockpiled should provide a final cover at least 1 foot thick.

SOIL FERTILITY

A soil survey to be completed next summer will test soil for fertility. Based on laboratory analysis and the success of areas currently undergoing revegetation, the need for fertilizers and other soil amendments will be determined. If soil supplements, fertilizers, or other amendments are required or desirable, they will be applied properly per the manufacturer's specifications or soil survey recommendations.

SEEDBED PREPARATION

PGM seedbeds will be prepared to facilitate seedling germination and establishment. Seedbeds will be left in a rough surface condition whenever possible. Areas will be seeded as soon as possible after completion of soil reconstruction. Physical soil manipulation and re-vegetation operations will be performed on the contour, to the fullest extent possible, to minimize potential surface erosion.

SEEDING METHODS

Reclamation of the mining area will be accomplished by planting a mixture of grasses approved by the DOGM and the US BLM. This seed mixture, shown in Table 110.1, is proposed for permanent revegetation of lands disturbed by mining. The proposed seed mixture was used in a Fire Rehabilitation project south and east of the mine and was recommended by the BLM.

Table 110.1 - Revegetation Seed Mixture

Common Name	Scientific Name	Seeding Rate (lbs/Acre)
Western Wheatgrass	*Pascopyrum smithii*	3.0
Crested Wheatgrass	*Agropyron cristatum*	3.0
Indian Ricegrass	*Achnatherum hymenoides*	1.0
Lewis Flax	*Linum lewisii*	1.0

Planting will be done by either drill seeding or broadcasting, with broadcast seeding the preferred method. Seeding will occur between October 1 and March 15 to take advantage of cool season precipitation as recommended by the DOGM.

Note: The areas being re-vegetated are in an arid desert environment. Successful re-vegetation is dependent on the yearly amount of rain the area will receive. Should the first attempt at reseeding be unsuccessful, than addition applications and measures will be attempted.